



PTO/SB/08a (08-03)

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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 3

Complete if Known

Application Number	10/777,204
Filing Date	February 13, 2004
First Named Inventor	HUSAIN
Art Unit	1724
Examiner Name	Not yet assigned
Attorney Docket Number	4320-548

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
CTB		US- 4,126,544	11-21-1978	Baensch et al.	
		US- 4,181,604	01-01-1980	Onishi et al.	
		US- 4,416,993	11-22-1983	McKeown	
		US- 4,746,435	05-24-1988	Onishi et al.	
		US- 4,883,594	11-28-1989	Sekoulov et al.	
		US- 5,034,164	07-31-1991	Semmens	
		US- 5,116,506	05-26-1992	Williamson et al.	
		US- 5,126,050	06-30-1992	Irvine et al.	
		US- 5,149,649	09-22-1992	Miyamori et al.	
		US- 6,013,511	01-11-2000	Diels et al.	
		US- 6,183,643	02-06-2001	Goodley	
		US- 6,531,062	03-11-2003	Whitehill	
		US- 6,558,549	05-06-2003	Cote et al.	
		US- 2003/0104192	06-05-2003	Hester et al.	
		US- 6,387,262	05-14-2002	Rittmann et al.	
		US- 5,238,562	08-24-1993	Rogut	
		US- 5,716,689	02-10-1998	Rogut	
		US- 6,241,867	06-05-2001	Mir	
		US- 4,664,681	05-12-1987	Anazawa et al.	
		US- 2,458,163	01-04-1949	Hays	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ³
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
CTB		DE 3544382	06-05-1987	Sekoulov et al.		
		DE 4440464	06-19-1996	Dietzmann et al.		
		English language abstract of JP 54-21057				
		JP 54-21057	02-16-1979	Doriko		ABB
		WO87/03615	06-18-1987	Sekoulov et al.		
CTB		EP 0 049 954	04-21-1982	Mitsubishi Rayon Co. Ltd.		

Examiner Signature	CHESTER T. BARRY	Date Considered	9/5/05
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**INFORMATION DISCLOSURE
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Sheet 2

of

3

Complete if Known

Application Number	10/777,204
Filing Date	February 13, 2004
First Named Inventor	HUSAIN
Art Unit	1724
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Attorney Docket Number	4320-548

U.S. PATENT DOCUMENTS

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		Number - Kind Code ² (if known)			
CTB		US- 5,518,620	05-21-1996	Eguchi et al.	
		US- 5,520,812	05-28-1996	Ryhiner et al.	
		US- 5,543,039	08-06-1996	Odegaard	
		US- 4,328,102	05-04-1982	Bellhouse et al.	
		US- 5,015,421	05-14-1991	Messner	
		US- 5,482,859	01-09-1996	Billr	
		US- 5,486,475	01-23-1996	Kramer et al.	
		US-2002-020666	02-21-2002	Cote et al.	
		US-2001-037967	11-08-2001	Rabie et al.	
		US-6,209,855	04-03-2001	Glassford	
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Examiner
Signature

CHESTER T. BARRY

Date
Considered

9/15/05

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 3 of 3

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Application Number	10/777,204
Filing Date	February 13, 2004
First Named Inventor	HUSAIN
Art Unit	1724
Examiner Name	Not yet assigned
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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
CTB	A	DR. MICHAEL J. SEMMENS and DENISE HANUS, "Studies of a Membrane Aerated Bioreactor for Wastewater Treatment", Cranfield University, June 1999.	
	B	BRINDLE et al., "Nitrification and Oxygen Utilisation in a Membrane Aeration Bioreactor, Journal of Membrane Science, 1998	
	C	COTE et al., "Bubble-free Aeration Using Membranes: Process Analysis", Journal Water Pollution Control Federation, November 1998	
	D	COTE et al., "Bubble-free Aeration Using Membranes: Mass Transfer Analysis", Journal of Membrane Science, 1989.	
	E	YEH, SHOW-JONG and CHARLES R. JENKINS, "Pure Oxygen Fixed Film Reactor", Journal of the Environmental Engineering Division, August 1978, pp 611-623	
	F	WOOLARD, C.R., "The Advantages of Periodically Operated Biofilm Reactors for the Treatment of Highly Variable Wastewater", Wat. Sci. Tech. Vol. 35, No 1, pp. 199-206, 1997.	
	G	TWAROWSKA-SCHMIDT, KRYSZYNA and ANDRZEJ WLOCHOWICZ, "Melt-spun Asymmetric Poly(4-methyl-1-pentene) Hollow Fibre Membranes", Journal of Membrane Science 137 (1997) 55-61.	
		YAMAGIWA et al., "Simultaneous Organic Carbon Removal and Nitrification by Biofilm Formed on Oxygen Enrichment Membrane", Journal of Chemical Engineering of Japan, 27(1994) October 638-643	
CTB		CASEY et al., "Review of Membrane Aerated Biofilm Reactors", Resources, Conservation and Recycling 27 (1999) 203-215	

Examiner Signature	CHESTER T. BARRY PRIMARY EXAMINER	Date Considered	9/15/08 9/15/05
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		Art Unit	1724		
		Examiner Name	Not yet assigned- BARRY		
Sheet	1	of	1	Attorney Docket Number	4320-548

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. 1	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
CTB		US- 6,309,550	10-30-2001	Iversen et al.	
		US- 6,592,759	07-15-2003	Rable et al.	
		US- 5,945,002	08-31-1999	Leukes et al.	
		US- 6,354,444	03-12-2002	Mahendran et al.	
		US- 6,361,695	03-26-2002	Husain et al.	
		US- 6,685,832	02-03-2004	Mahendran et al.	
CTB		US- 2004-115782	06-17-2004	Paterek	
		US- 6,001,585	12-14-1999	Gramer	

FOREIGN PATENT DOCUMENTS						
Examiner Initials *	Cite No. 1	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁴
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
CTB		CA 2,182,915	02-12-1997	MG Generon Inc.		
		CA 2,102,156	07-01-1994	Celgard Inc.		
		CA 2,100,002	02-11-1994	Desalination Systems Inc.		
		CA 2,356,316	08-17-2000	Koch Membrane Systems Inc.		
		CA 2,005,959	06-20-1990	The Dow Chemical Company		
		CA 1,096,976	03-03-1981	Mitsubishi Rayon Co.		
CTB		CA 2,300,719	09-15-2001	Zenon Environmental Inc.		

Examiner Signature	CHESTERT T. BARRY PRIMARY EXAMINER	Date Considered	9/15/05
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